

**ABSTRACT OF THE DISCLOSURE**

5 A shadow-free 3D and 2D measurement system combining, in one FMI set-up, a Moiré 3D lighting with other simultaneous external illuminations (for example a coaxial one or another). The reconstructed image combines the advantages of these different illuminations. The relative light intensities are selected in order to assure the best 2D detection while maintaining the 3D measurements.